

Complex Genetic Disorders, Genetic Susceptibility to Infections

AB012. Impact of down-regulated SK3 expressions in Hirschsprung's disease patients following pull-through surgery

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Background: Some Hirschsprung's disease (HSCR) patients showed persistent bowel symptoms following an appropriately pull-through procedure. The mechanism is presumed to be down-regulated small-conductance calcium-activated potassium channel 3 (SK3) expressions in the HSCR ganglionic intestines. We aimed to investigate the SK3 expressions impact in HSCR patients after a properly pull-through surgery in Indonesian population, a genetically distinct group within Asia.

Methods: We assessed the SK3 expressions in the ganglionic/aganglionic colon specimens of HSCR patients and the control colon specimens using quantitative real-

time polymerase chain reaction (RT-PCR).

Results: We ascertained ten HSCR patients and five controls. Quantitative RT-PCR showed that the SK3 expressions were significantly lower (64-fold) in the aganglionic colon group compared to the control group, 10.9 ± 4.6 vs. 4.9 ± 3.6 , respectively ($P=0.025$). The expression of SK3 in the ganglionic colon group was also lower (21-fold) compared to the control group, 9.3 ± 5.8 vs. 4.9 ± 3.6 , respectively, which did not reach a significant level ($P=0.145$).

Conclusions: Our study shows that the down-regulated SK3 expressions in ganglionic intestines might contribute to the persistent bowel symptoms following a properly pull-through surgery in HSCR patients. Furthermore, this study is the first report of SK3 expressions in a sample population of Asian ancestry.

Keywords: Hirschsprung's disease; Indonesia; SK3; down-regulate; persistent bowel symptoms; expression

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